

REMARKS

After entry of the amendments herein, claims 1-17 shall be pending in the subject application. Claims 6-8, 11-12, and 15 have been withdrawn from further consideration. Claims 1, 4, 5, and 14 been amended herein, and claims 16 and 17 have been newly added herein, in order to more particularly point out and distinctly claim subject matter. The Applicants respectfully submit that no new matter has been added. It is believed that this paper is fully responsive to the Office Action dated August 17, 2011.

1. The Examiner has rejected claims 4, 5, and 14 under 35 U.S.C. §112, second paragraph.

Claims 4, 5, and 14 have been amended herein, in a manner intended to overcome this rejection.

In view of the above, Applicants respectfully submit that this rejection should be withdrawn.

2. The Examiner has rejected claims 1-5, 9-10 and 14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0148499 (Tanaka '499).

Applicants respectfully traverse this rejection, for the following reasons.

There are substantial, important differences between the art relied upon by the Examiner and the combinations of features as set forth in the claims.

The U.S. Patent and Trademark Office has the burden of proof to show that an applicant is not entitled to a patent if the claimed subject matter is anticipated by, or is obvious from, the art of record. A patent applicant is entitled to a patent unless the U.S. Patent and Trademark Office establishes otherwise.

The Examiner has suggested that **Tanaka '499** shows a cell heating step performed before a string step.

However, in the subject application, the cell heating step is performed after the string step.

Tanaka '499 fails to describe, teach, or suggest the combination of features as set forth in claim 1, as amended, including at least the following features: "A method of manufacturing a solar battery by electrically connecting a plurality of cells to one another using connection members, comprising the following steps in the order named: ... a string step of connecting the connection members to the cells by soldering; and a cell heating step of heating the cells connected to the connection members." The amendment to claim 1 herein is supported by the original disclosure (see page 13, lines 19-24, for example).

The new/unexpected/favorable results are discussed in the original disclosure (see, for example, page 13, line 11 to page 17, line 1).

In view of the above, Applicants respectfully submit that the rejection of claim 1 should be withdrawn. It is submitted that the rejection of claims 2-5, 9, 10, and 14 should be withdrawn by virtue of their dependency.

3. The Examiner has rejected claim 13 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0148499 (**Tanaka '499**) as applied to claim 1 above, and further in view of JP 2003-168811 (**Tanaka '811**).

Applicants respectfully traverse this rejection, for the following reasons.

There are substantial, important differences between the art relied upon by the Examiner and the combinations of features as set forth in the claims.

The U.S. Patent and Trademark Office has the burden of proof to show that an applicant is not entitled to a patent if the claimed subject matter is anticipated by, or is obvious from, the art of record. A patent applicant is entitled to a patent unless the U.S. Patent and Trademark Office establishes otherwise.

Tanaka '811 fails to remedy the above-described deficiencies of **Tanaka '499** regarding base claim 1. Claim 13 depends from claim 1.

Tanaka '811 and **Tanaka '499**, alone or in combination, fail to describe, teach, or suggest the combination of features as set forth in claim 1, as amended, including at least the following features: "A method of manufacturing a solar battery by electrically connecting a plurality of cells to one another using connection members, comprising the following steps in the order named: ... a string step of connecting the connection members to the cells by soldering; and a cell heating step of heating the cells connected to the connection members."

Accordingly, in view of the above remarks and amendments, Applicants respectfully submit that this rejection of claim 13 should be withdrawn by virtue of its dependency.

4. The Examiner has rejected claims 1-5, 9, 10, and 14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,446,302 (**Carey**) in view of JP 05-245622 (**Kawamata**).

Applicants respectfully traverse this rejection, for the following reasons.

There are substantial, important differences between the art relied upon by the Examiner and the combinations of features as set forth in the claims.

The U.S. Patent and Trademark Office has the burden of proof to show that an applicant is not entitled to a patent if the claimed subject matter is anticipated by, or is obvious from, the

art of record. A patent applicant is entitled to a patent unless the U.S. Patent and Trademark Office establishes otherwise.

Carey discloses electrical interconnects for solar cells, and a “fluxless solder cream” (column 1, line 61). Also, **Carey** discloses that interconnects can break due to high temperature required for soldering (column 1, lines 11-15; column 1, lines 31-32). Additionally, an object of the **Carey** disclosure is to eliminate solar cell breakage caused by soldering.

The Examiner has not identified any portion o **Carey**, regarding “a cell heating step of heating the cells connected to the connection members” as recited in claim 1.

In order to attempt to remedy such deficiencies in **Carey**, the Examiner has tried to rely on **Kawamata**.

Kawamata discloses reheating a soldered object (paragraph [0013]).

This rejection of claim 1 is improper and should be withdrawn, because: **Carey** would cease to operate as intended if an extra heating step of **Kawamata** were to be added to the **Carey** procedure (since **Carey**’s object is to reduce a need to heat in order to reduce the frequency of breakage due to heating); **Carey** uses a “fluxless solder cream” and thus **Carey** would not utilize **Kawamata**’s reheating step which is intended to remove **Kawamata**’s flux residue; and **Carey**

should not be modified and combined with **Kawamata** in the manner suggested by the Examiner, in view of the above discussion.

In **Carey**, it is written that the cell is cured at room temperature in one example (col. 3, line 45) (see also col. 2, line 4). Thus, EXAMPLE I of **Carey** is different from the features of the subject application about this point. In EXAMPLE I of **Carey**, "cured at room temperature" and "Utilizing this process there is no heating ..." (col. 3, line 60) are written. According to such a description, the disclosure of **Carey** is different from the features of the subject application. Thus, it is not possible to combine **Carey** and **Kawamata**. Also, it would not be reasonable to try to combine **Carey** and **Kawamata**.

In **Carey**, it is written that "(Pb-Sn) no-clean fluxless surface mount solder cream" is used (col. 1, lines 40-43). In EXAMPLE II of **Carey**, it is written that "Pb-Sn no-clean surface mount solder cream" is used (col. 4, lines 5-7). And "no additional flux" is written too. On the other hand, in the features of the subject application, the flux is applied before soldering. Thus, the teachings of **Carey** are different from the features of the subject application and it is not possible to combine **Carey** and **Kawamata**. Also, it would not be reasonable to try to combine **Carey** and **Kawamata**.

"Pb-Sn no-clean fluxless solder cream" cannot be regarded as the flux set forth in the features of the subject application. In the features of the subject application, the flux is applied separate from the solder.

Accordingly, in view of the above remarks and amendments, Applicants respectfully submit that this rejection of claim 1 should be withdrawn. It is submitted that this rejection of claims 2-5, 9, 10, and 14 should be withdrawn by virtue of their dependency.

5. The Examiner has rejected claim 13 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,446,302 (**Carey**) in view of JP 05-245622 (**Kawamata**) as applied to claim 1 above, and further in view of U.S. Patent No. 5,074,920 (**Gonsiorawski**) and JP2003-168811 (**Tanaka '811**).

Applicants respectfully traverse this rejection, for the following reasons.

There are substantial, important differences between the art relied upon by the Examiner and the combinations of features as set forth in the claims.

The U.S. Patent and Trademark Office has the burden of proof to show that an applicant is not entitled to a patent if the claimed subject matter is anticipated by, or is obvious from, the art of record. A patent applicant is entitled to a patent unless the U.S. Patent and Trademark Office establishes otherwise.

Gonsiorawski and **Tanaka '811** fail to remedy the above-described deficiencies of **Carey** and **Kawamata** regarding base claim 1, as discussed in Section 4 herein above. Claim 13 depends from claim 1.

Accordingly, in view of the above remarks and amendments, Applicants respectfully submit that this rejection of claim 13 should be withdrawn by virtue of its dependency.

6. Claims 16 and 17

Claim 16 depends from claim 1 and thus it is believed that claim 16 is not taught by the cited art for the same reasons as discussed above.

Claim 17 sets forth a combination of features including at least “A method of manufacturing a solar battery by electrically connecting a plurality of cells to one another using connection members, comprising the following steps in the order named: ... a string step of connecting the connection members to the cells by soldering; and a cell heating step of heating the cells connected to the connection members, wherein the flux is applied before the soldering.” It is submitted that the cited art fails to describe, teach, or suggest that combination of features, in view of the above remarks concerning the disclosures of the cited art.

U.S. Patent Application Serial No.: **10/594,389**
Response filed November 16, 2011
Reply to OA dated August 17, 2011

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the Applicants respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

KRATZ, QUINTOS & HANSON, LLP



Darren Crew
Attorney for Applicants
Reg. No. 37,806

DC/kn

Atty. Docket No. **060659**
4th Floor
1420 K Street, N.W.
Washington, D.C. 20005
(202) 659-2930



23850

PATENT & TRADEMARK OFFICE